REMARKS

The Examiner rejected all the claims under 35 U.S.C. §§102 (b) and 103, on the basis of prior patents to Hecker et.al. and Cantor. The Examiner's detailed analysis is appreciated.

In response, the Applicant has amended claims 1, 4, 7, 10 and 11. As the balance of the claims depend from these independent claims, the amendments comprise revisions to all claims. New dependent claims have also been added to clarify the claims structure. As these depend from existing claims which the Applicant now believes to be novel and non-obvious, the newly added claims should not require additional substantive examination on the part of the P.T.O.

The primary prior art reference cited is U.S. Patent No. 4,775,235 to Hecker et.al. (1988). The Hecker patent discloses the synchronized scanning of a laser and camera in order to measure distances to the surface points on an object. The present invention performs the same general tasks. However, thee are significant structural differences between the present invention and Hecker. Hecker provides a structure in which the laser, camera, and optical paths all lie in a single plane (see FIG. 1). This structure requires that the laser and camera be angularly offset (see particularly Claim 1, at Col. 6, Lines 26-33). In addition, the laser and camera must be positioned behind the splitter mirrors (elements 6 and 7 in Hecker's FIG. 1), in order to prevent the bulk of the camera and laser bodies from obstructing the optical path. Such a configuration results in the camera and laser being positioned a considerable distance from the oscillating "scanner mirror" (element 4). The lengthened separation produces a narrow field of view (A simple truth for any mirror - the closer one gets to the mirror, the wider the field of view that is visible in the mirror). Thus, the "scanner mirror" can only be oscillated through a small arc before the optical path is broken by the fact that it no longer intercepts the reflecting mirrors. Thus, the key to a large scanning arc is to place the laser and camera as close to the splitting

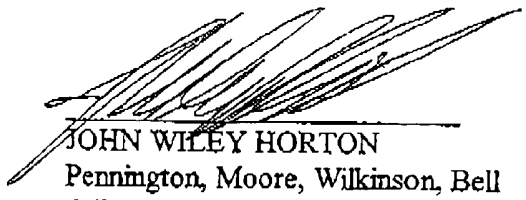
mirrors as possible.

The present invention's FIG. 8 illustrates the different structure used by Bennett et.al. Rather than placing all the components in a single plane, the present invention places the laser and camera substantially out of the reflective plane of the mirrors. This allows a very close placement between the laser, camera, and oscillating mirror (limited only by the need for mechanical clearance of the oscillating components). As a result, a much wider field of view is available and a much wider scanning arc is possible. The version illustrated in FIGs. 8 through 17 scans a 30 degree arc (+/- 7.5 degrees on the mirror produces +/- 15 degrees on the projected beam and camera view). *See* Page 16, Lines 14-21; Page 20, Lines 13-15; FIGs. 13-15 of the original disclosure. Additionally, the close placement of these components minimizes vibration-induced errors. *See* Page 6, Lines 15-18; Page 7, Line 13; and Page 27, Line 7.

The widened field of view also allows the scanning assembly to completely scan an object while being placed much closer to the object than the Hecker device allows - again improving accuracy. These structural limitations were not clearly set forth in the original claims. Accordingly, the Applicant has amended the claims to more clearly cite the novel and non-obvious distinctions of the present invention. Support for these amendments are found in the original specification, as detailed above.

In view of the above amendments and remarks, the Applicant believes that the claims are in condition for allowance. Accordingly, the Applicant respectfully requests that the Examiner reconsider the rejections.

Respectfully submitted this 30TH day of DEC., 2002.



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